

ABSTRACT OF THE DISCLOSURE

The present invention provides a method for reducing the density of sites on the surface of fused silica optics that are prone to the initiation of laser-induced damage, resulting in optics which have far fewer catastrophic defects and are better capable of resisting optical deterioration upon exposure for a long period of time to a high-power laser beam having a wavelength of about 360 nm or less. The initiation of laser-induced damage is reduced by conditioning the optic at low fluences below levels that normally lead to catastrophic growth of damage. When the optic is then irradiated at its high fluence design limit, the concentration of catastrophic damage sites that form on the surface of the optic is greatly reduced.

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